



U.S. Department
of Transportation

**Federal Aviation
Administration**

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

March 29, 2012

The Honorable Daniel K. Inouye
Chairman, Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

As requested in the Consolidated and Further Continuing Appropriations Act, 2012, (Public Law 112-55, 125 stat. 646), the Federal Aviation Administration is pleased to provide the annual Aviation Safety Workforce Plan that provides a background for current staffing levels, describes the evolving aviation safety environment, forecasts expected attrition and specific hiring targets over a 10-year period, and details strategies for meeting staffing needs through better management practices.

We have sent identical letters to Chairman Rogers, Senator Cochran, and Congressman Dicks.

Sincerely,



Michael P. Huerta
Acting Administrator

Enclosure



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of Transportation

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Administration**

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

March 29, 2012

The Honorable Thad Cochran
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Senator Cochran:

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March 29, 2012

The Honorable Harold Rogers
Chairman, Committee on Appropriations
House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

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March 29, 2012

The Honorable Norm Dicks
Committee on Appropriations
House of Representatives
Washington, DC 20515

Dear Congressman Dicks:

As requested in the Consolidated and Further Continuing Appropriations Act, 2012, (Public Law 112-55, 125 stat. 646), the Federal Aviation Administration is pleased to provide the annual Aviation Safety Workforce Plan that provides a background for current staffing levels, describes the evolving aviation safety environment, forecasts expected attrition and specific hiring targets over a 10-year period, and details strategies for meeting staffing needs through better management practices.

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FEDERAL AVIATION ADMINISTRATION

AVIATION SAFETY

SAFETY is our passion

EXCELLENCE is our promise

INTEGRITY is our touchstone

PEOPLE are our strength

INNOVATION is our signature

2012 Workforce Plan

To meet the requirements in the Consolidated and Further Continuing Appropriations Act, 2012 (Public Law 112-55, 125 stat. 646), the FAA has prepared an annual Aviation Safety Workforce Plan that:

- Provides a background for current staffing levels;
- Describes the evolving aviation safety environment;
- Forecasts expected attrition and specific hiring targets over a 10-year period; and
- Details strategies for meeting staffing needs through better management practices.

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Executive Summary

The Federal Aviation Administration's (FAA) mission is to provide the safest, most efficient aerospace system in the world. In support of this mission, the FAA's Aviation Safety (AVS) line of business is responsible for ensuring the safety of every aspect of civil aviation. Through a dedicated workforce of safety critical and operational support professionals located in offices around the country and abroad, AVS sets, oversees, and enforces safety standards for any person or product that operates in the National Airspace System (NAS), including airmen, airlines, manufacturers, repair stations, mechanics, and air traffic controllers.

Workload

Industry business changes, technological advances, and the need for greater global harmonization have required FAA to continue to work toward transforming the NAS through the implementation of Next Generation Air Transportation System (NextGen) technologies and a Safety Management Systems (SMS) approach. To stay aligned with these changes, AVS continues to forecast and manage additional workload demands.

The number of operators and operations play a part in forecasting demand for AVS services, but operator configuration/complexity is the primary demand driver. The requirement for AVS services is driven by industry characteristics, such as number of aircraft, types of aircraft (fix-wing, helicopter, turbine engine, propeller engine), scheduled and on-demand operations, domestic and foreign operations, number of company employees, experience of employees, and location of operations.

The aviation industry continually adapts to economic conditions and operators change their business practices to gain competitive advantages by adjusting variables such as fleet size, mix, maintenance location, manufacturing tools/techniques and operating stations. The AVS organization must be dynamic by responding and providing out-year staffing projections in order to conduct oversight of these entities.

Staffing

AVS continues to recruit, hire, and retain highly-qualified safety professionals who have the necessary technical and analytical skills to meet the safety mission. AVS ended Fiscal Year (FY) 2011 with a staffing level of 7,467 personnel. In FY 2012, the estimated staffing level for AVS is 7,455.

Attrition

In response to the 423 employees lost through attrition in FY 2011, AVS hired 417 safety professionals. Although FY 2011's 5.7 percent attrition rate fell below the projected 7 percent, AVS continues to forecast attrition levels between 6.5 and 7 percent in the out-years based on forecasted increases in employee retirement eligibility and the improving national economy. AVS plans to continue to hire behind attrition as it occurs in the future.

Hiring and Training

The organization will hire safety professionals and continue its focus on retaining them by providing the training opportunities necessary to build on and maximize the workforce's diverse skill sets to meet the safety mission. By leveraging innovative online training opportunities and traditional classroom-style instruction, AVS is preparing its workforce to meet new demands while thriving in a dynamic aviation environment.

Succession Planning

Since over 40 percent of its workforce is eligible to retire within the next 5 years, AVS continues to focus on building and maintaining a pipeline of skilled employees who are prepared for and capable of taking on increasing roles of responsibility within the organization.

Introduction

AVS Safety Continuum

AVS promotes the safety of the world's largest, most complex aviation system by regulating and providing oversight of the civil aviation industry. The AVS workforce is responsible for:

- Setting standards;
- Certification; and
- Continued Operational Safety Management.

Setting Standards

AVS creates and amends the rules, regulations, policies, and associated guidance material that apply to people, organizations, and equipment operating in America's civil aviation system. AVS also develops aviation safety and certification standards and policies in collaboration with the aviation industry, government and regulatory agencies, and FAA experts.

Certification

AVS determines compliance with certification standards and issues certificates based on these standards. AVS issues both initial certificates and renewals to airmen, airlines, civil aeronautical products, aircraft repair stations, and repairmen. AVS also issues airworthiness approvals for complete individual aircraft, aircraft parts, systems, hardware and software, and all types of aircraft.



Figure 1
AVS Safety Continuum

Continued Operational Safety

Through safety surveillance and oversight programs, audits, evaluations, education and training, research, and accident/incident investigations, AVS ensures existing certificate holders continue to meet the safety requirements, standards, and regulations of their original certification.

Aviation Safety Services and Offices

As detailed in Appendices 1 and 2, AVS achieves the safety continuum through a workforce that is located domestically and abroad (Appendices 3, 4 and 5) and divided into seven Services and Offices (S/Os):

- Flight Standards Service (AFS);
- Aircraft Certification Service (AIR);
- Office of Aerospace Medicine (AAM);
- Air Traffic Safety Oversight Service (AOV);
- Office of Accident Investigation and Prevention (AVP);
- Office of Rulemaking (ARM); and
- Office of Quality, Integration, and Executive Services (AQS).

Aviation Safety: An Evolving Environment

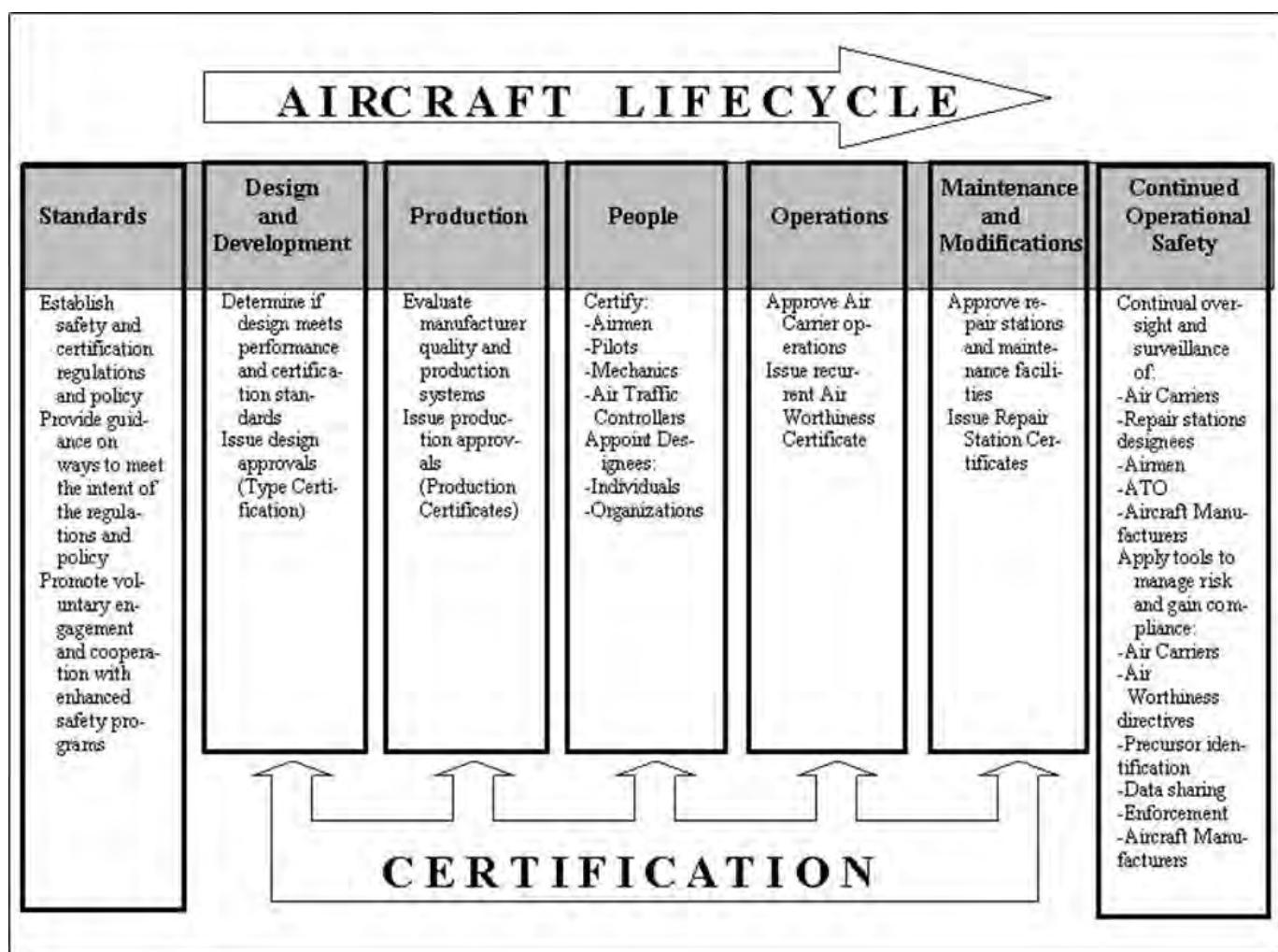
To safely manage new certification requests; changes in aviation business processes or business models; global and domestic maintenance and supplier outsourcing; and advances in aviation technologies, science, and medicine, AVS will have to provide increased oversight.

To accommodate new aircraft and aircraft systems entering the NAS, AVS will have to develop new standards, policy, guidance, and regulations. AVS will also have to certify new NextGen technology while providing increased support to the implementation of SMS.

AVS is meeting these constantly shifting and increasing demands by requesting necessary resources and ensuring personnel are fully equipped, trained, and capable of achieving every aspect of the organization's safety mission.

As shown in Figure 2, the AVS safety continuum encompasses every aspect of the aircraft lifecycle, ensuring that every stakeholder (Appendix 6) certified to operate in the NAS continues to meet safety standards.

Figure 2: Aircraft Lifecycle



Staffing Requirements

AVS has two major staffing categories of employees—safety critical, comprising both technical and safety technical specialist positions, and operational support positions.

Safety Critical Operational Staff –Positions that have a direct operational impact on the AVS safety mission, including AVS personnel who:

- Certify aircraft, aircraft alterations, equipment, and avionics;
- Certify aviation personnel, airlines, repair stations, training centers, and other air agencies;
- Monitor and enforce industry compliance with safety regulations, through inspections, data analysis, risk management, or other means;
- Monitor and enforce Air Traffic Organization (ATO) compliance with safety regulations;
- Monitor and enforce industry drug and alcohol testing programs; and
- Investigate accidents.

Aviation Safety Inspectors and Engineers make up the two major position types within the Safety Critical Operational Staffing Category. The inspector workforce is assigned primarily to Certificate Management Offices (CMOs) and Flight Standards District Offices (FSDOs) within AFS. In AIR, inspectors are assigned to Manufacturing Inspection District Offices (MIDOs), while the engineers are typically assigned to Aircraft Certification Offices (ACOs). The following provides a summary description of inspectors' and engineers' work responsibilities.

Flight Standards Aviation Safety Inspector (ASI)

CMO and FSDO ASIs work within the aviation community to promote safety and enforce FAA regulations. The majority of these inspectors specialize in areas such as operations, maintenance, and avionics, while a smaller collection of these positions oversee cabin safety and dispatch functions. The role of these ASIs is to be the frontline FAA regulatory contact with the aviation industry. ASIs are responsible for ensuring that the aviation industry complies with all Federal Aviation Regulations (FARs), and helping entities they oversee operate safely and efficiently. ASIs also work with the aviation community to inform them of new requirements and help them interpret and comply with regulations, troubleshoot problems that involve compliance with regulations, and educate industry personnel in safe practices and procedures. The AFS ASIs provide oversight of aircraft operators (e.g, air carriers of all sizes, air taxi services, general aviation operators and agricultural applicators), pilots, flight attendants, dispatchers, flight and maintenance schools, maintenance facilities, and their personnel.

Aircraft Certification Manufacturing ASI

Manufacturing ASIs administer and enforce safety regulations and standards for the production and/or modification of aircraft, aircraft engines and parts. During type certification programs and design evaluations, an ASI will inspect prototype or modified aircraft, aircraft parts, and avionics equipment for conformity with design specifications and safety standards. In addition, they make original airworthiness determinations and issue certificates for all civil aircraft, including modified, import, export, military surplus, and amateur-built aircraft. ASIs are responsible for FAA certificate management of manufacturing facilities where they conduct evaluations and surveillance of production and quality control operations. These ASIs also conduct designee and delegation management and oversight within the scope of their respective responsibilities. An ASI may also develop FAA rules, policy, and guidance for production and airworthiness related areas.

Aircraft Certification Service Aviation Safety Engineer (ASE)

ASEs are responsible for evaluating design approval projects of aircraft, aircraft engines, and parts. They perform certificate management of design approval holders, including working with manufacturers to develop suitable corrective actions to address potential unsafe conditions. ASEs apply advanced engineering knowledge and experience in specific engineering disciplines such as airframe; systems; and equipment (electronics/avionics, electrical or mechanical); propulsion; and flight test. During type certification programs and design evaluations, an ASE establishes applicable airworthiness standards, reviews test plans, witnesses tests, and determines compliance. An ASE also conducts designee and delegation management and oversight within the scope of their respective responsibilities. An ASE may also develop FAA rules, policy, and guidance for engineering related areas.

Safety Critical Program Staff – Consists of AVS Safety Technical Specialists, not included above, who provide the support necessary for safety critical operational staff to efficiently and effectively do their jobs. This includes, but is not limited to, AVS personnel who:

- Evaluate and analyze the effectiveness of existing AVS certification, regulatory and compliance programs, activities, and methods;
- Develop new programs, activities, and methods for improved oversight activities and enhanced industry safety;
- Implement new programs and revised approaches directed by Congress, the Government Accountability Office (GAO), the Office of the Inspector General (OIG), National Transportation Safety Board (NTSB), and other oversight organizations;
- Design, develop, and deliver the technical training curriculum for the safety critical operational staff;
- Oversee and monitor the AVS designee programs;
- Provide information technology support;
- Maintain the airmen and aircraft registries and the airmen medical certification system; and
- Guide the development and publication of FAA rules and regulations through the rulemaking process.

Operational Support Staff – Consists of all AVS personnel, including managers, in functions that are not classified as safety critical operational staff or safety critical program staff, such as planning, finance, and administration.

Although AVS projected a total staffing level of 7,403 positions for FY 2011, AVS ended the year with 7,467 employees (Appendix 6). AVS plans to end FY 2012 with 7,455 employees, of which 6,398 are safety critical and 1,057 are operational support. AVS plans to meet the FY 2012 enacted level through attrition and by closely managing backfills.

Figure 3 shows that the FY 2013 budget request maintains aviation safety inspector and engineering staff increases from previous years.

Figure 3: AVS Staffing (Operations Appropriation)

End-of-Year Employment – Full Time Positions (FTP)		FY 2011 Actual	FY 2012 Enacted	FY 2013 Request
Flight Standards	Engineers	14	12	12
	Aviation Safety Inspectors	4110	4104	4104
	Safety Technical Specialist	459	448	448
	Operational Support	699	690	690
	Total	5282	5254	5254
Aircraft Certification	Manufacturing Safety Inspectors	257	258	258
	Pilots, Engineers, and CSTAs	730	734	734
	Safety Technical Specialist	171	170	170
	Operational Support	157	157	157
	Total	1315	1319	1319
Aerospace Medicine	Physicians, Physician Assistants, Nurses	54	55	55
	Alcohol/Drug Abatement Inspectors	66	68	68
	Safety Technical Specialist	209	206	206
	Operational Support	40	40	40
	Total	369	369	369
Air Traffic Safety Oversight	Air Traffic Safety Inspectors	57	58	58
	Safety Technical Specialist	68	68	68
	Operational Support	5	7	7
	Total	130	133	133
Rulemaking	Safety Technical Specialist	31	33	33
	Operational Support	3	3	3
	Total	34	36	36
Accident Investigation and Prevention	Air Safety Investigators	10	10	10
	Safety Technical Specialist	47	48	48
	Operational Support	7	9	9
	Total	64	67	67
Quality, Integration, and Executive Services	Safety Technical Specialist	126	126	126
	Operational Support	147	151	151
	Total	273	277	277
Sub Total	Safety Critical Staff	6,409	6,398	6,398
Sub Total	Operational Support Staff	1,058	1,057	1,057
Grand Total	AVS Staff	7,467	7,455	7,455

AVS Staffing Model

In FY 2007, a National Academy of Sciences report on inspector staffing within AFS and AIR stated that the current inspector staffing model for AFS did not provide information on the number of staff required or where staff should be located. The report recommended that a new staffing model be developed to provide such information. Concurring with the recommendation, AVS created a new staffing model and also determined that there was a need to expand the model to include the entire AFS workforce and the safety critical workforce for the rest of AVS.

Using specific demand equations by FAR Part (e.g., 91, 121, 135, 142, 145, and others) as well as by position type (e.g., operations, maintenance, avionics, or manufacturing), the AVS Staffing Tool and Reporting System (ASTARS Model) currently forecasts the inspector workforce. The AFS safety technical specialist and operational support workforce are predicted within the AFS portion of the model using historic staffing ratios that compare managers and administrative support personnel to safety critical staff requirements. Model forecast data was used within this plan to support the FY 2014 and FY 2015 inspector staffing forecasts.

ASTARS provides forecast data that identify AVS staffing levels needed to meet operator configuration or complexity requirements. Within the model, formulas have been developed with the flexibility to adjust for changes in operator information, such as size of the fleet, age of the fleet, variety of aircraft, maintenance performance, employee certifications and experience, types of production approvals, and locations. These variables assist in the creation of a forecast for AVS inspectors.

The ASTARS Model forecasted out-year staffing requirements for AFS and AIR Inspectors in 2014 and 2015. As mentioned previously, operator configuration plays a major role in the number of staff needed to meet workload demand. An operator's configuration consists of characteristics such as number of aircraft, types of aircraft (fix-wing, helicopter, turbine engine, propeller engine), scheduled or on-demand operations, domestic and foreign operation, number of employees, and location of operations. Some operators have changed fleet size, fleet mix, maintenance location, manufacturing tools/techniques and operating stations, and ASTARS predicts the need for employees to provide adequate oversight.

The current models within ASTARS provide forecast totals for slightly over 68 percent of AVS safety critical staff (approximately 4,400 positions). Additionally, AVS initiated data collection for aerospace engineering in October 2011 and anticipates that forecast data will be available beginning in FY 2013. The Aircraft Evaluation Group (AEG) and the FAA Safety Team (FAAST) workforce models are projected for incorporation into ASTARS in FY 2012 with forecast data available in FY 2013.

To help project a more accurate picture of future resource requirements, AVS is continuing to expand the staffing model to include all safety critical occupational components. The same ratio-driven methodology that has been developed in the AFS component is being explored within the air component of the model for safety technical and operational support staff. To improve out-year forecasts, AVS has also expanded the use of Labor Distribution Reporting (LDR) data in conjunction with the AFS Inspector Time and Motion Study data on work time reported for products and activities that have been completed.

While the 2011 workforce analysis focused on these particular workload drivers, AVS continues to receive product and work activity counts for other activities that require personnel and financial resources, including enforcement investigations, new certifications, airworthiness directives, airmen medical applications, ATO safety analysis and audits, and accident and incident investigations. These completed work products are reported annually and, when aligned with work hours, are used to assist AVS in identifying staffing trends such as labor increases or product complexity changes.

To help manage staffing requirements and proactively “close the gap” between on-board staffing levels and unaccomplished work, AVS is:

- Implementing a SMS;
- Improving designee management programs; and
- Leveraging its Aviation Safety Information Analysis and Sharing (ASIAS) capability.

SMS

AVS is implementing a more forward-thinking approach to analyze trends, data, and systems to manage risk through its SMS, which is a systematic approach to managing safety that incorporates organizational structures, accountabilities, policies, and procedures. It offers a new management paradigm through which to view organizational decisions and activities that puts safety above all other considerations. SMS relies on four components to manage risk:

- Safety Policy – Defines safety objectives, organizational structures, and commitment to implementing and operating the SMS;
- Safety Risk Management (SRM) – A formal process within the SMS composed of describing the system, identifying the hazards, and assessing, analyzing, and controlling the risk;
- Safety Assurance – Monitors existing safety risk controls (created in SRM) to ensure their effectiveness, and seeks to identify new hazards in the operational system; and
- Safety Promotion – Actions taken to create an organizational environment where safety objectives can be achieved, including measures designed to enhance personnel competence, communication, and safety culture.

While the organization’s ISO-certified Quality Management System (QMS) is designed to manage quality, the SMS helps the organization manage risk through data-driven decision making.

Delegation Programs

Designees are private persons and organizations to whom the FAA delegates limited authority to perform functions on behalf of the Administrator. AFS, AIR, and AAM oversee over 10,000 designees or delegated organizations that provide aviation services that the FAA does not have resources to accomplish. Although designees can perform some of the work, they still require oversight from AVS employees.

To ensure standardization and consistency in designee management, AVS has made several improvements to its delegation system, including:

- Issuing FAA Order VS 1100.2, “Managing AVS Delegation Programs,” to define consistent requirements to manage designees across AVS;
- Establishing the AVS Delegation Steering Group comprised of representatives from each of the three S/Os with a delegation program. This group reports to the AVS executive management team annually to ensure delegation management remains a top priority;

- Consolidating and rewriting individual designee policies and processes to comply and align with the Delegation QMS process, simplifying the policies and procedures of the 14 individual designee types across the S/Os;
- Standardizing high-level designee management areas, including: appointment, selection, review, termination, and appeals; and
- Developing the Designee Management System (DMS), an automated tool that will support designee management functions and gather data for QMS process metrics and decision making regarding designee management at the individual designee level as well as programmatic levels.

ASIAS

To complement the SMS, AVS developed the ASIAS capability. ASIAS enables users to perform integrated queries across multiple databases, search an extensive warehouse of safety data, and display pertinent elements in multiple formats. AVS expanded its ASIAS capabilities to aggregate and integrate safety information from across the aviation industry. By developing new analytical methodologies and leveraging state-of-the-art information technology, AVS and its industry stakeholders are able to monitor the effectiveness of implemented safety enhancements, establish baselines and trending capability using safety metrics, and identify emerging risks from safety data from multiple databases. As it matures, ASIAS will provide additional data sources and capabilities that will enhance the global aviation community's access to shared data and technological innovation.

To meet projected increased workload within the aviation industry in the out-years and to minimize the resource gap, AVS continues to focus its resources on the areas of highest risk through SMS, expand use of designees, and increase data-driven decision making through ASIAS. While there is no direct correlation between the U.S. fleet size and the AVS workforce, the aviation fleet is one predictor of workload. Figure 4 depicts that relationship.

Figure 4: Change in Aviation (Part 121 Jets and GA Turbo Jets)

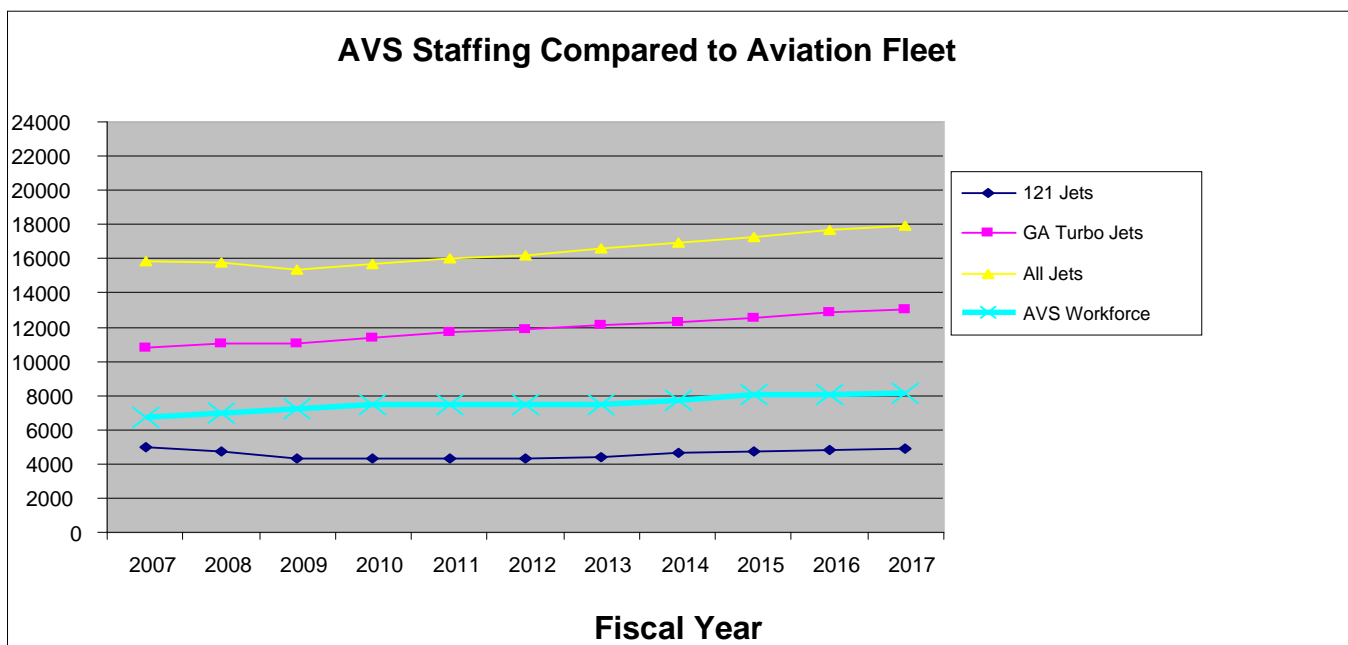
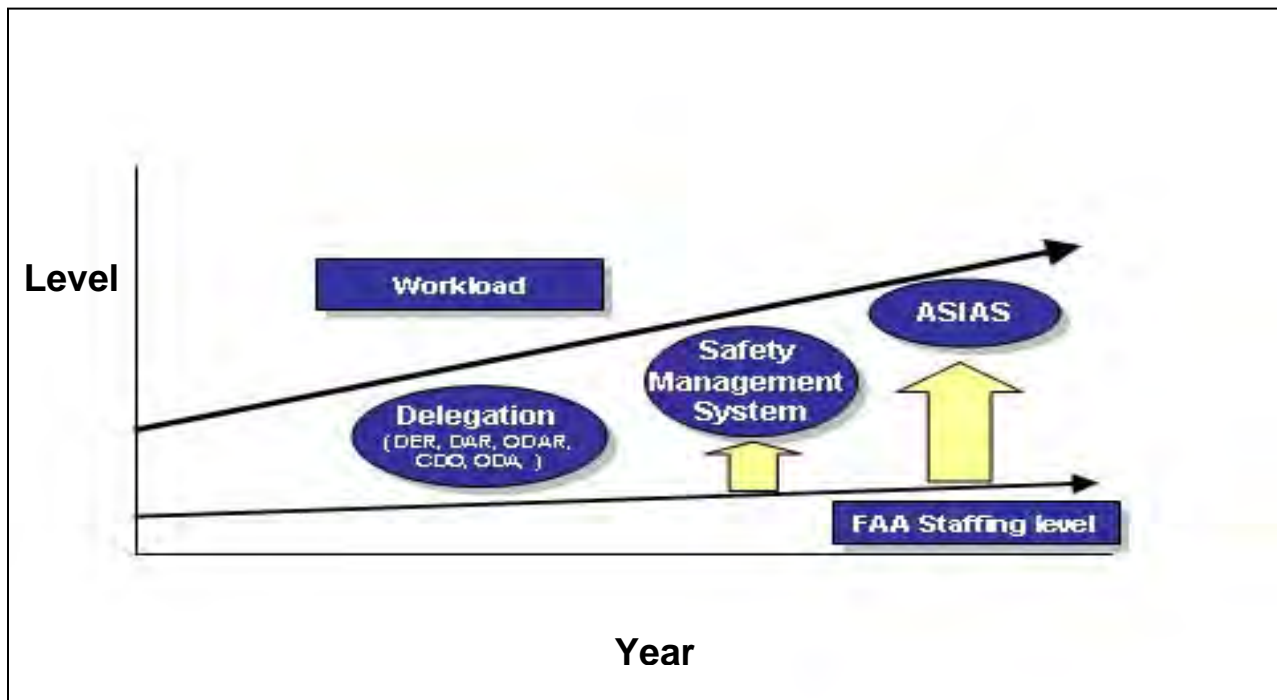


Figure 5 is a notional chart that depicts the way AVS is using tools such as delegation, SMS, and ASIAs to hold down staffing increases in the face of a growing workload.

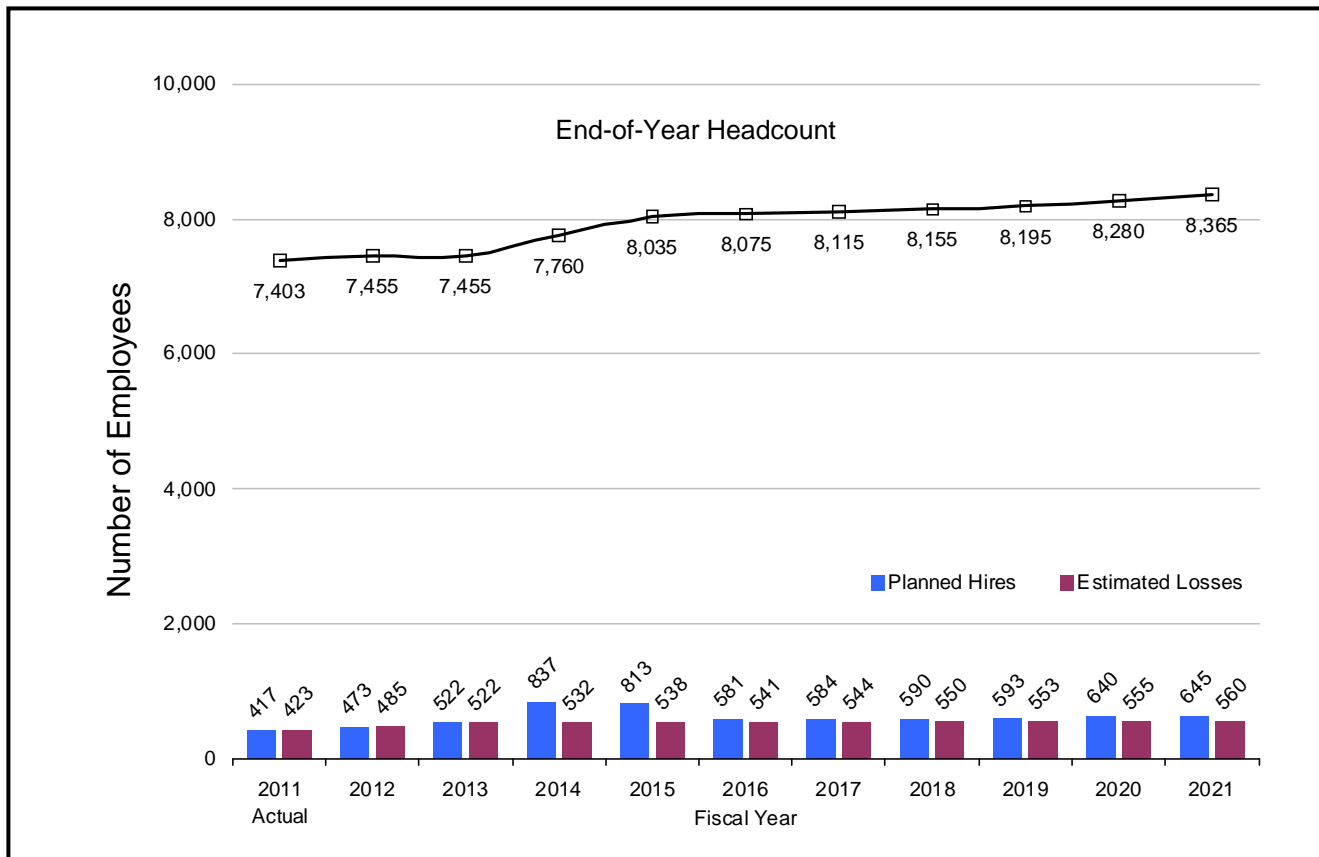
Figure 5: Managing the Resource Gap



Staffing Gains

To sustain the safety continuum, ensure uninterrupted support to new entrants, and maintain the continued operational safety of the NAS, AVS forecasts workload growth based on the ASTARS for AFS and AIR and FAA/industry fleet and operations forecast.

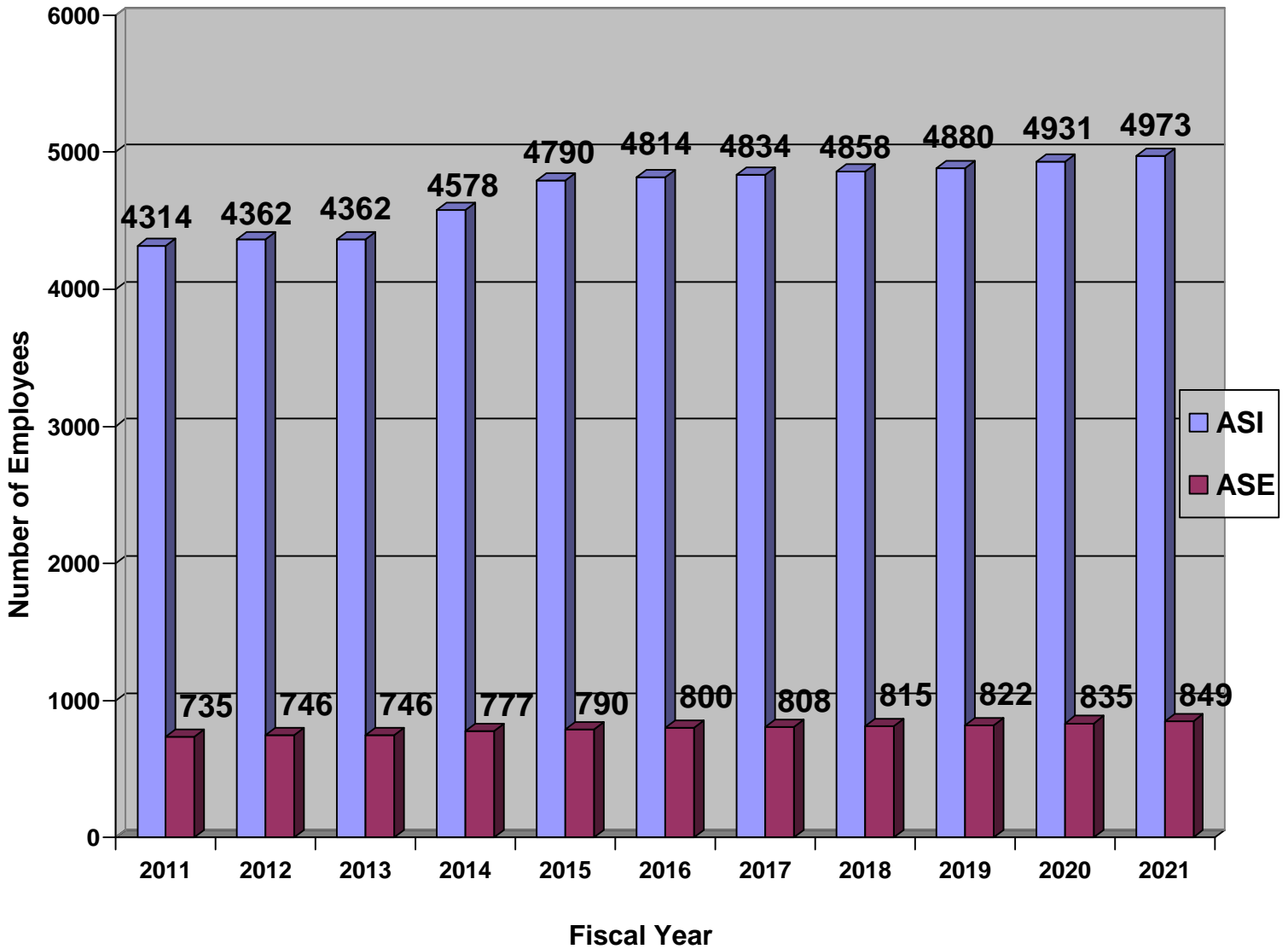
Although forecasts indicate industry and stakeholder demands on the NAS will continue to be constrained over the next two years, long-term aviation operations in the NAS are projected to increase from FY 2014 to FY 2021. AVS has modeled incremental staffing growth between 4.1 percent in the near term and less than 1 percent per year in the out-years for the entire workforce. The staffing increases modeled in FY 2014 and FY 2015 are based on workload demand forecasted within ASTARS. To help manage staffing requirements and workload demands, AVS will also implement SMS; improve designee management programs; and leverage its ASIAs capabilities.

Figure 6: AVS Staffing Totals**NOTES:**

1. FY 2011 – FY 2013 staffing totals are based on FY 2011 Actual Level, FY 2012 Enacted, and FY 2013 Budget Request.
2. FY 2014 and FY 2015 staffing projections are based on the AVS Inspector Staffing Model and service demand drivers.
3. FY 2016 through FY 2021 staffing projections based on FAA/Industry forecasts.

Figure 7 shows staffing growth for the two largest AVS workforce components, ASIs and ASEs. The chart assumes incremental staffing growth beginning in FY 2014 ranging from 0.5 percent to 4.1 percent per year.

Figure 7: Aviation Safety Inspector / Aviation Safety Engineer — Staffing



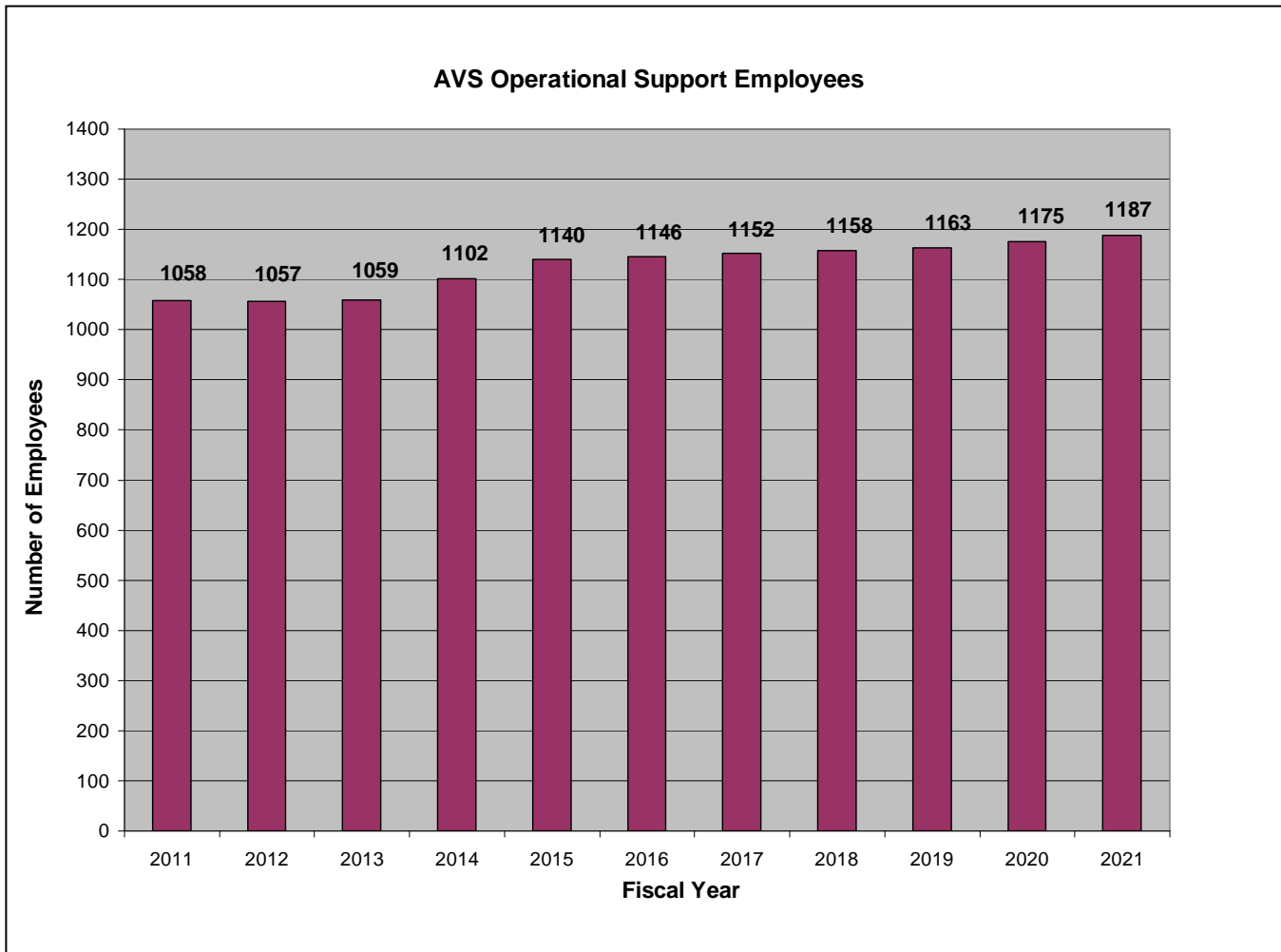
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3. FY 2016 through FY 2021 staffing projections based on FAA/Industry forecasts.

Operational Support Staffing Requirements

AVS is comprised mostly of safety critical employees, such as inspectors, engineers, pilots, physicians, nurses, and accident investigators. Operational support staff in field offices and headquarters provide management and administrative support to safety critical operational and program staffs. Figure 8 assumes incremental growth for operational support staffing for FY 2014 through FY 2021 ranging from 0.5 to 4 percent per year.

Figure 8: AVS Operational Support Employees



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3. FY 2016 through FY 2021 staffing projections based on FAA/Industry forecasts.

Staffing Losses

Attrition

AVS loses personnel to retirements, resignations, removals, deaths, transfers, and promotions. From FY 2005 through FY 2010, the AVS annual attrition rate ranged from 6 to 9 percent. In FY 2011, AVS had a lower than average attrition level of 5.7 percent, or 423 positions, of which 226 (53 percent) were retirements. We attribute that disparity to the uncertain national economic climate and have anecdotal evidence that employees who deferred retirement in FY 2011 will retire in FY 2012, bringing attrition rates back to previous levels. In FY 2012, AVS projects a loss of 485 employees to attrition, of which 243 are expected to be retirements. In FY 2013, AVS forecasts attrition will be 7 percent, or 522 employees, of which 255 are expected to be retirements.

Because AVS hires many mid- and late-career professionals with extensive industry experience, we have a more mature workforce than other FAA lines-of-business. Unlike air traffic controllers, AVS employees do not have a mandatory retirement age. They join the FAA later and generally retire later in their career. The average age of AFS and AIR ASIs is 55, while the average age for AIR aviation safety engineers (ASE) is 50. In FY 2012, approximately 29 percent of AVS's ASI workforce and 15 percent of its ASE workforce were eligible to retire. For ASI and ASE attrition, AVS assumes rates between 7 and 7.5 percent over the next 10 years, which are slightly higher projections than for other occupational series because they are a more senior population and more likely to retire.

Figures 9 and 10 are projections of the estimated staffing losses for the AVS workforce and safety critical ASI and ASE categories. The charts assume the overall AVS attrition rate will be between 6.5 and 7 percent over the next 10 years.

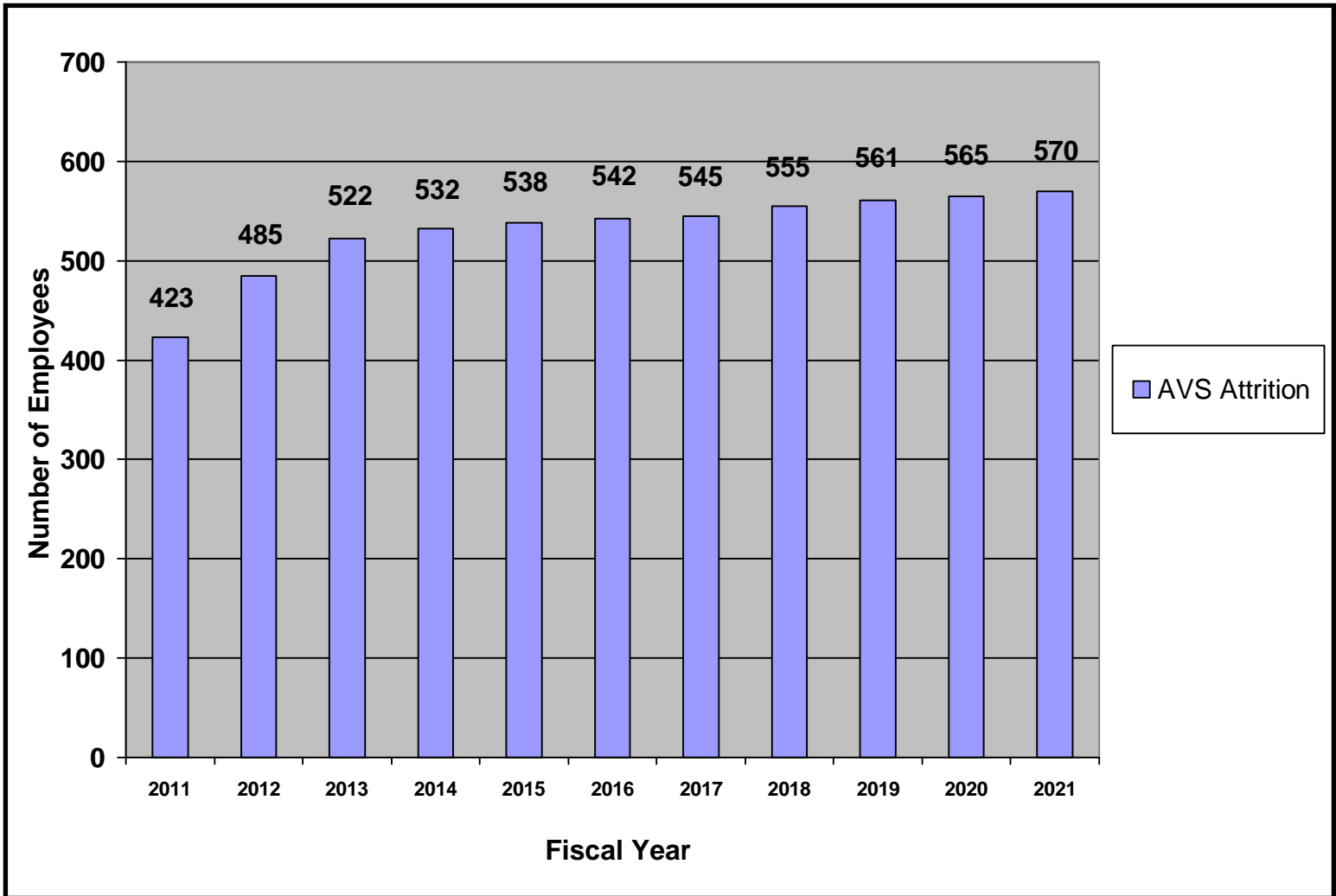
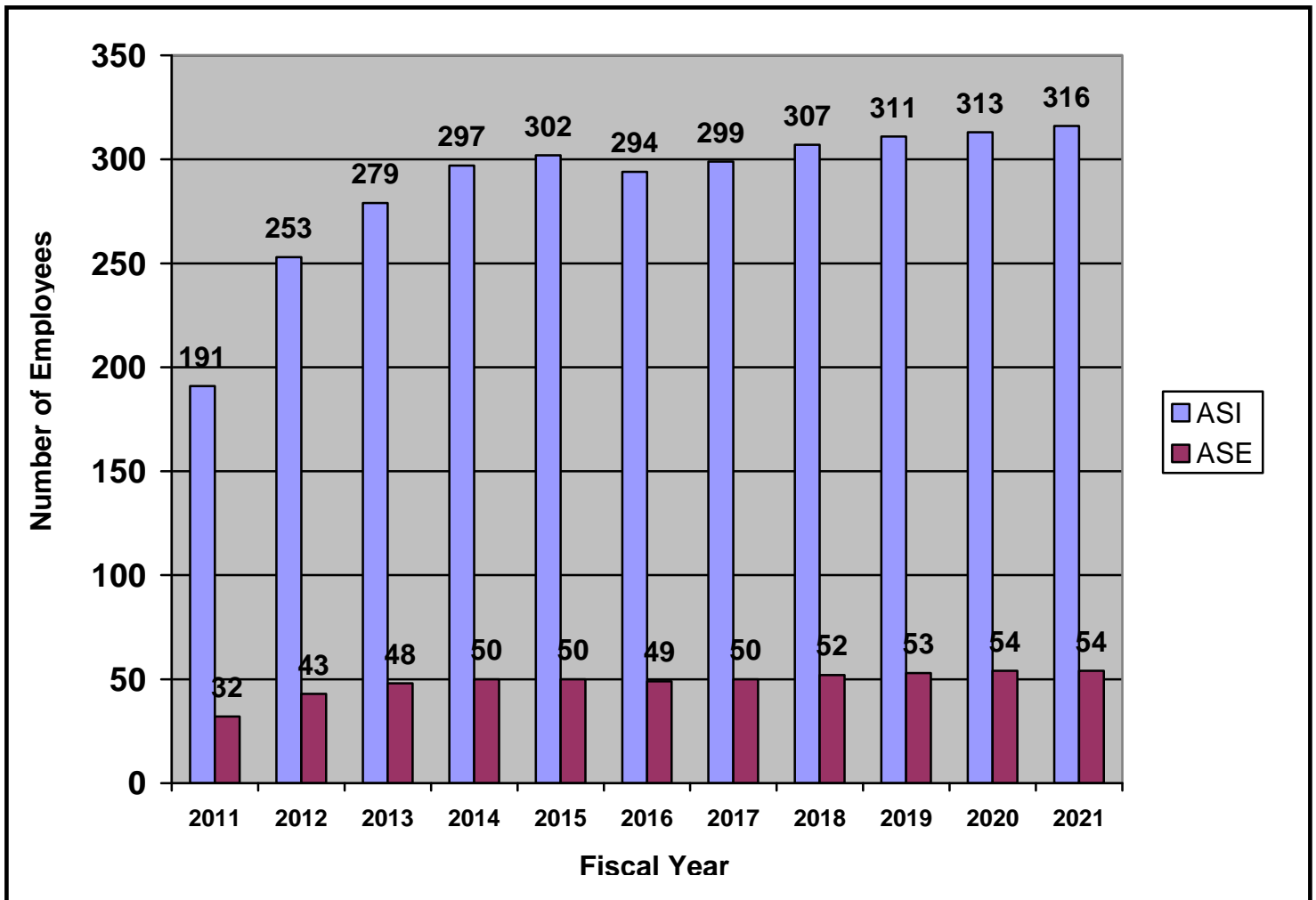
Figure 9: AVS Estimated Staffing Losses

Figure 10: Aviation Safety Inspector / Aviation Safety Engineer — Estimated Staffing Losses

Hiring

Safety Critical Hiring

Since a growing percentage of its leadership and technical specialist workforce is eligible to retire within the next five years, in order to sustain an uninterrupted safety continuum, AVS focuses on maintaining a pipeline of skilled employees who are prepared and capable of taking on increasing roles of responsibility within the organization. To forecast gaps, AVS continuously monitors attrition within its leadership cadre and safety critical workforce. AVS also implements succession strategies and programs to ensure continuity in its leadership and targets its recruitment in key occupations to support accomplishment of the safety mission.

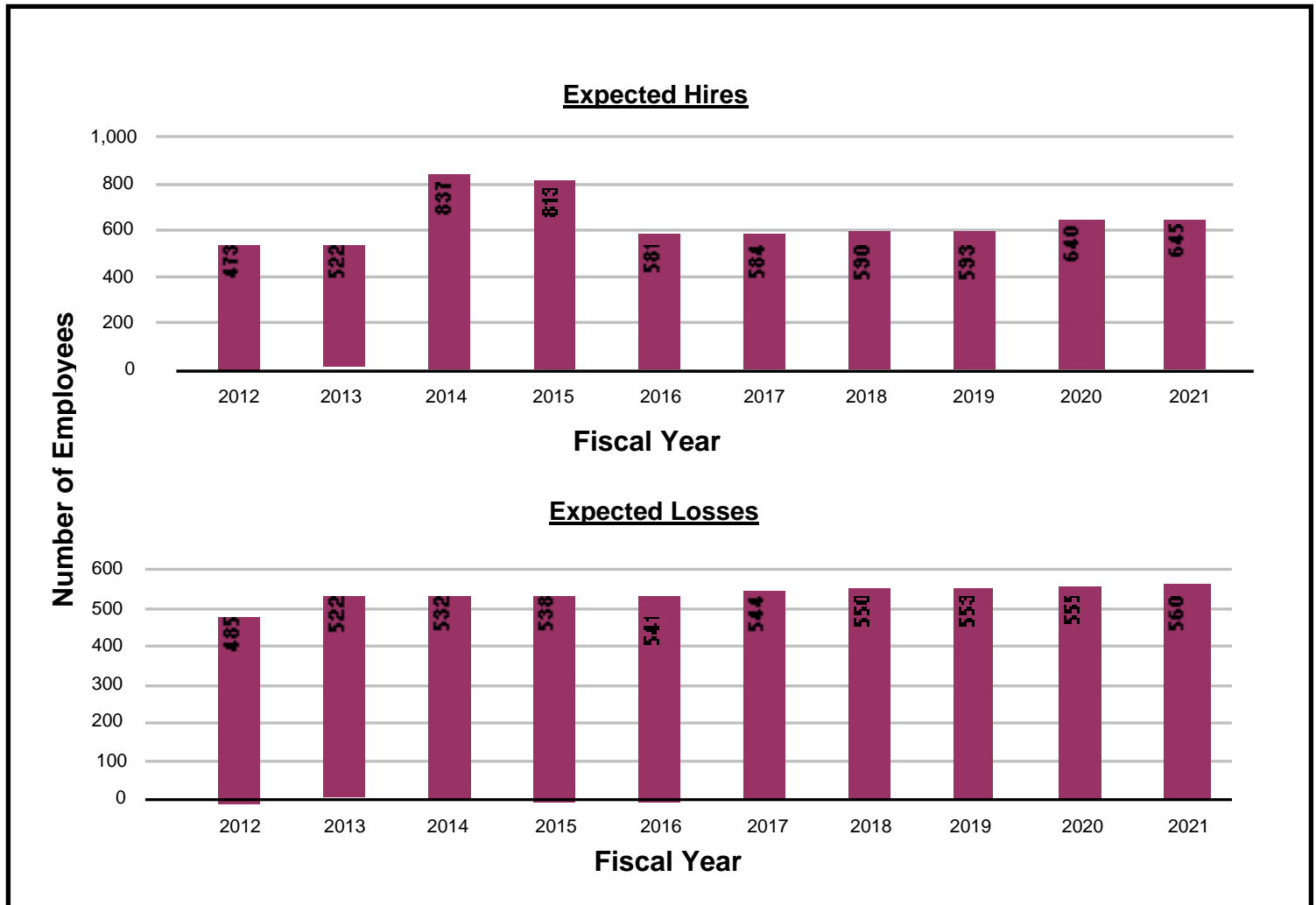
Considering the following factors, AVS identifies and adjusts the organization's recruitment and retention strategy, if necessary, to meet current and future needs:

- Number and distribution of positions by pay plan/grade or pay band/series and geographic location;
- Diversity trends;
- Identification of skill competencies;
- Average grade/band;

- Retirement eligibility (current and expected); and
- Attrition (separations, resignations, transfers, retirements).

Figure 11 is a projection of estimated hiring gains and staffing losses over the next 10 years. The table compares FY 2011 versus FY 2012 plan projections.

Figure 11: AVS Projected Staffing



Safety Critical Recruitment

To successfully operate in a more collaborative and technologically advanced SMS and NextGen environment, AVS continues to build a workforce that is adept at risk-based, data-driven decision making as well as systematic and critical thinking. However, AVS is competing with private industry to recruit the best candidates from a very limited talent pool.

AVS is experiencing similar issues in recruiting engineers. As the number of people entering specialized technical aviation fields continues to decrease, the competition to hire them continues to increase. As a result, it has become particularly difficult for AVS to recruit engineers, resulting in one of its most significant workforce challenges.

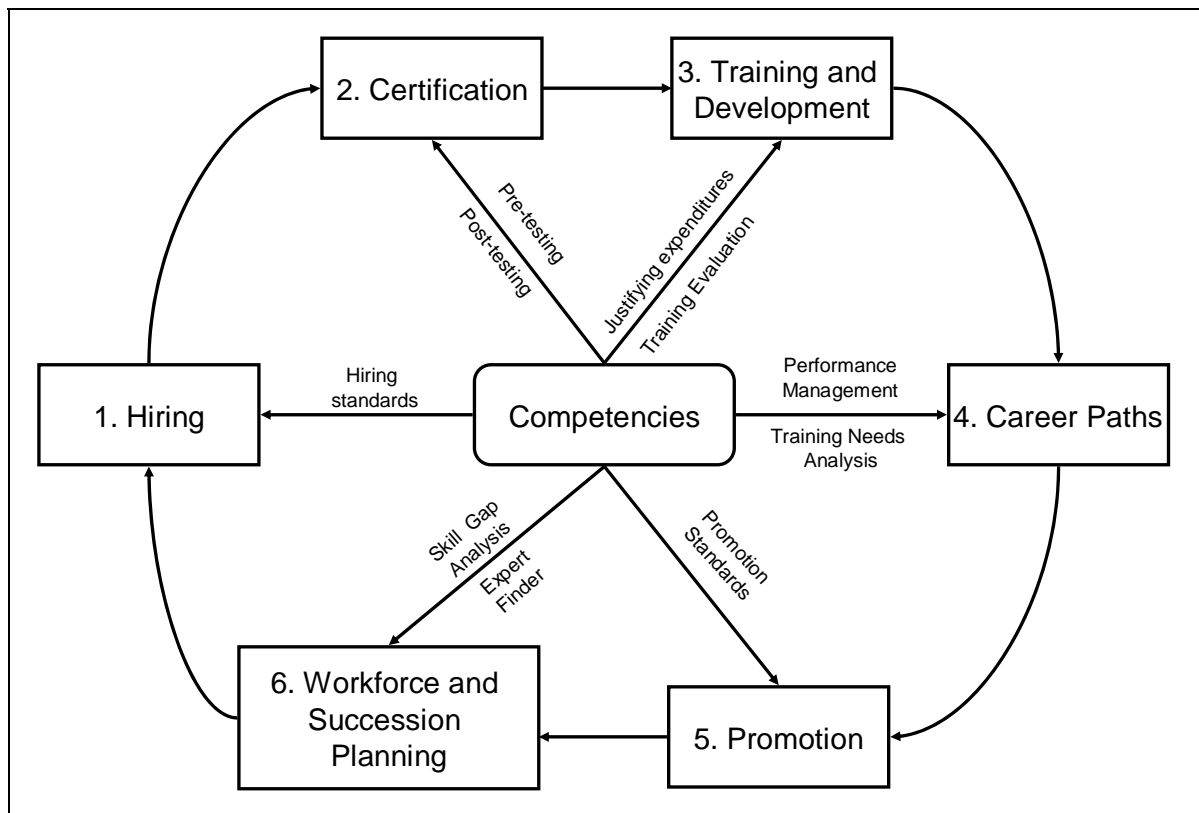
In FY 2010, AVS developed and implemented a recruitment plan to ensure the organization is attracting and hiring talented applicants from diverse backgrounds to close these gaps. As part of this plan, in FY 2012, AVS will pilot a centralized hiring process to select:

- Entry-level aerospace engineers; and
- General aviation and maintenance, operations, and manufacturing aviation safety inspectors.

To hire ASIs, AVS uses the Automated Vacancy Information Access Tool for On-Line Referral (AVIATOR), which is an automated hiring system utilized by applicants, managers, and HR professionals to facilitate the overall application and selection process for positions.

AVS also uses the FAA’s Managerial and Employee Leadership Competency Profiles to correlate and define interpersonal and business competencies when recruiting for safety critical positions. This “Core” competency model is used to meet the hiring challenges anticipated in future aviation inspections by describing a baseline-mastery level of core business and interpersonal competencies, as well as specific technical competencies required across the organization.

Figure 12: A Competency-Based Workforce Management System



This competency model allows the competencies of individual employees to be compared against the requirements of individual positions across AVS. As a result, competencies enable individuals to:

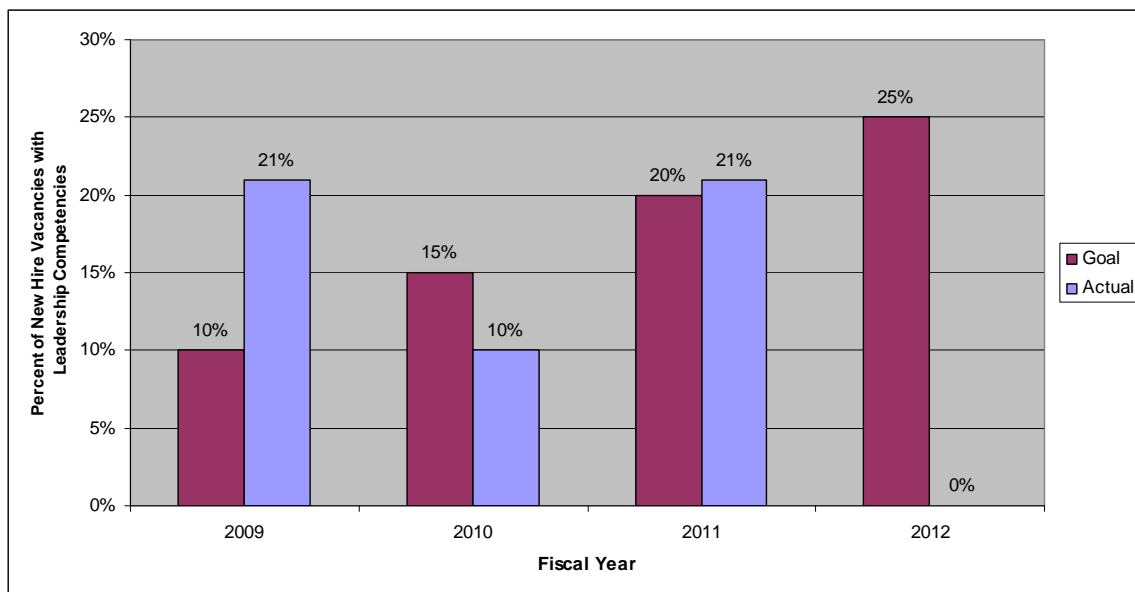
- Better understand how their individual and group job functions support the AVS mission; and
- Identify how their individual competency profiles compare to the competencies required across AVS.

Utilizing assessment tools effectively ensures AVS can quickly fill safety critical positions with individuals who possess the needed skills to support the implementation of ASIAs, SMS, and NextGen. Specifically, the competency model provides a systematic approach of looking at the entire lifecycle of any existing position to determine what is required in order for the incumbent to successfully perform the duties assigned.

AVS also continues to use core interpersonal and business competencies in addition to knowledge, skills, and abilities (KSAs) when creating vacancy announcements. AVS's FY 2011 goal was to fill 20 percent of new positions using vacancy announcements that included at least two of the Employee Leadership Profile competencies that support SMS and NextGen. The long-term goal is to increase this percentage by five percentage points per year over the next five years, making the FY 2012 goal 25 percent.

AVS exceeded the FY 2011 goal by slightly over one percentage point. Of the approximately 417 new hires, 21 percent of the vacancy announcements included two identified skill competencies. Figure 13 illustrates the number of vacancy announcements that included two or more leadership competencies to fill new safety critical positions.

Figure 13: Vacancy Announcements with Leadership Focus Areas



To improve the process for assessing these competencies at the time of application, AVS is developing a competency crosswalk using the Employee Leadership Profile competencies to bridge the KSAs that will be used when recruiting non-executive positions. This crosswalk tool will assist managers and HR POCs in identifying the accurate KSAs that directly correlate to AVS's core interpersonal and business competencies.

Operational Support Hiring

Because of the level of expertise required to ensure the safety of the NAS, AVS is comprised mostly of technical employees such as inspectors, engineers, pilots, physicians, nurses, and accident investigators.

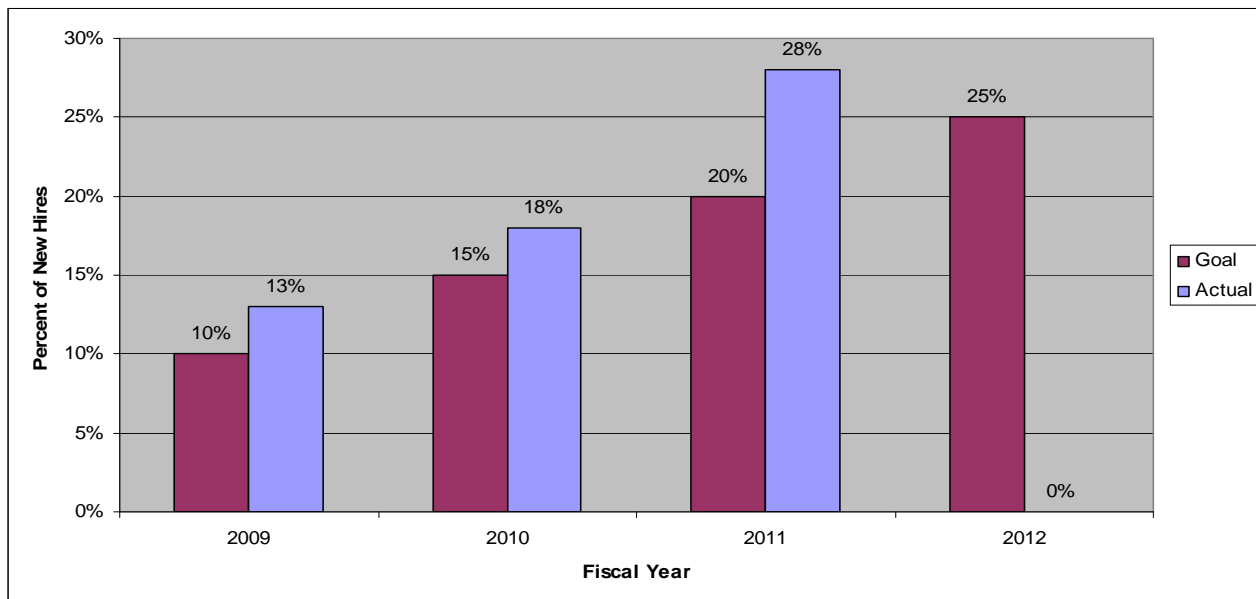
Operational support staff in field offices and headquarters provide management and administrative support to technical employees.

Although there is significant emphasis placed on hiring initiatives for safety critical positions, AVS is equally committed to attracting and retaining its operational support workforce. As a result of competitive compensation incentives, a Telework Program, and new Tuition Assistance Programs, AVS is currently not experiencing significant challenges in hiring and staffing operational support positions. In contrast to the limited number of qualified candidates available to fill safety critical positions, AVS continues to benefit from a growing talent pool of qualified operational support candidates. This is due in large part to the Nation's unemployment rate, which has made Federal positions more attractive.

Hiring Entry Level Staff

To strengthen the AVS pipeline of candidates who will eventually replace retiring leaders, AVS set a goal to recruit 20 percent of new hires in safety critical occupations at lower pay bands/grades. For example, target ASI recruitment efforts are at grades 9 to 11 or equivalent pay bands. AVS exceeded its goal in FY2011 by eight percentage points. The organization hired more than 400 new employees. Of those, 28 percent were hired into safety critical occupations at lower pay bands/grades.

Figure 14: Safety Critical New Hires at Lower Pay Bands/Grades



Partnering and Outreach Initiatives

AVS works with FAA's Office of Human Resource Management-Corporate Recruitment and Marketing and the Office of Civil Rights to:

- Continue cultivating the relationships and partnerships with colleges and universities to fill entry-level engineer and inspector positions;
- Implement recruitment strategies that will increase efforts to hire people with disabilities;
- Continue participating in a broad approach to assessing the Science Technology, Engineering, and Math (STEM) skills needed in the aviation industry by working with professional organizations, such as the Future of Aviation Advisory Committee, Technical Women's Organization, National

Black Coalition of Federal Aviation Employees, National Hispanic Coalition of Federal Aviation Employees, and others;

- Recruit from industry stakeholders, including airlines and manufacturers;
- Partner with various educational programs, such as the Professional Society of Black Engineers;
- Partner with the Minority Servicing Institutions to foster professional internships from the Historically Black Colleges and Universities, Hispanic Serving Institution, etc;
- Implement the FAA Student Intern Program; and
- Develop and implement the AVS Diversity and Inclusion Strategic Plan.

Compensation Incentives

To better compete with private industry recruitment practices, AVS offers a limited number of incentives, such as leave enhancements and degree completion programs.

Employee Engagement

Once AVS has hired an employee, the focus shifts to retention. To increase employee satisfaction and engagement levels, AVS continues to strive to become the “Workplace of Choice” by ensuring:

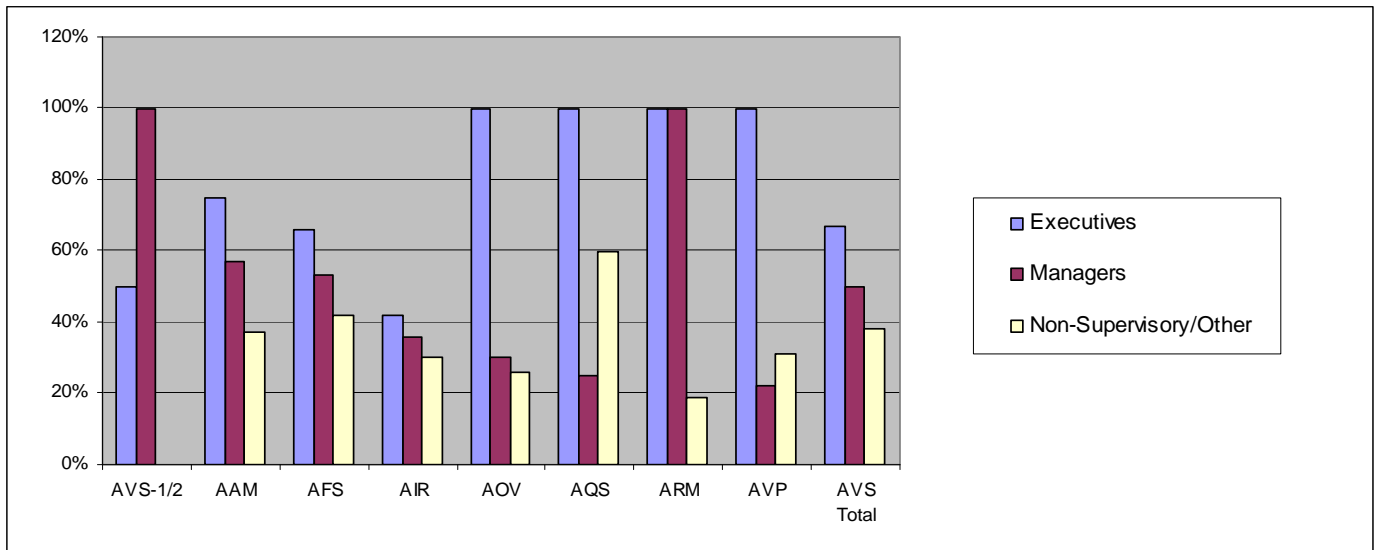
- Employees have the opportunity to participate in development programs to strengthen leadership skills;
- Employees have a professional, open, transparent, and safe culture to work in that encourages innovation, empowerment, and growth;
- Training stays current with agency strategic challenges and strengthens leadership competencies;
- Senior leaders take a more active role in communicating with and engaging employees by:
 - Using Town Hall meetings to update AVS employees on current activities and accomplishments;
 - Conducting Site Visits by members of the AVS management team to offices throughout the country, which provides management the opportunity to hear about safety issues and concerns directly from employees;
 - Encouraging participation in the U. S. Department of Transportation’s (DOT) IdeaHub, a DOT-wide online collaborative tool used to create ideas and help shape solutions for improving FAA’s workplace. It empowers employees to develop, rate, and improve innovative ideas on a wide range of topics;
 - Distributing the AVS Flyer, an internal communications resource that is emailed to all AVS employees biweekly. It serves as another communication tool to highlight the great accomplishments of the workforce in a timely fashion;
 - Holding various meetings and conferences to provide managers the resources and skills needed to better support day-to-day operations. The group shares lessons learned, identifies best practices, and makes recommendations for areas of improvement; and
 - Participating in panel discussions at the Aviation Safety Overview for new employees and AVS New Manager’s class.

Succession Planning

Currently, AVS has 3,078 employees who will be eligible to retire by September 30, 2016. Since most of these employees are executives or managers, AVS focuses succession planning on leadership positions across all job series, not just safety critical positions. AVS manages its talent pool and maintains a pipeline of trained and capable professionals who can seamlessly assume leadership positions as they become vacant without interrupting the safety continuum. AVS is equipping and developing its workforce with the leadership skills necessary to successfully sustain this continuum through specialized training programs, including: AVS’s Leadership, Enhancement, and Development Program (LEAD), the

FAA’s Senior Leadership Development Program (SLDP), and the Program for Emerging Leaders (PEL). Figure 15 shows the number of leadership positions compared to non-supervisory positions that are eligible to retire within the next five years.

Figure 15: Leadership vs. Non-Supervisory Positions Eligible to Retire Within 5 Years



NOTES:

1. Retirement Eligibility within 5 years of September 30, 1016.
2. AVS-1/2 represent the AVS Executive Office.
3. AOV, AQS, ARM, and AVP are made up of two or fewer Executives and/or Managers.

Training

To sustain the safety continuum through a robust pipeline, AVS continues to develop its workforce by providing the right training to the right people at the right time, ensuring employees have the knowledge and skills needed to respond to future aviation safety challenges and to assume roles of increasing responsibility within AVS.

Safety Critical Training

Although AFS, AIR, AAM, and AOV maintain their own training organizations, their efforts align with and support AVS’s overarching workforce development program, which focuses on the development, delivery, and evaluation of specialized technical training. The organization’s workforce development goals (Appendix 7) include:

- Identifying staffing requirements - using ASTARS for inspectors and historical overhead ratios for other positions;
- Hiring a proficient staff with the required KSAs to achieve the safety mission; and
- Providing training and professional development opportunities to fill any skill or competency gap and to enhance current performance.

In FY 2012, AVS will continue to review employee and leadership development opportunities in collaboration with the FAA Office of Learning and Development and other FAA Lines of Business, particularly the ATO. Specific AVS corporate programs include:

- Providing an AVS 101 Webinar to all new hires;

- Implementing standards for an AVS On-Boarding Program;
- Assessing development opportunities for at least one non-technical occupational series; and
- Continuing to incorporate standard messages on AVS programs (e.g., QMS, SMS, and NextGen) into S/O specific training.

Based on the 2011 Federal Employee Viewpoint Survey results, AVS will work to make improvements in the area of performance management. Specifically, AVS is obtaining the necessary training resources to better equip our leaders with the people skills needed to manage performance and the work of the organization. Managers and supervisors are encouraged to clearly communicate with their employees the organizational vision and strategies that will create a performance culture by:

- Providing fair and accurate informal feedback;
- Emphasizing employee strengths in Performance Reviews;
- Clarifying performance expectations;
- Instilling the performance culture;
- Connecting employees with talented coworkers;
- Demonstrating a commitment to employee development; and
- Encouraging innovation.

Initial Technical Training

The total training provided for new safety critical staff varies across the different S/Os and ranges from two to 11 weeks depending on the specialty. For most employees, training is provided within the first 18 months of employment.

AFS has four main areas of technical specialization, with each requiring a series of initial courses called “string training”:

- General Aviation Operations;
- General Aviation Airworthiness;
- Air Carrier Operations; and
- Air Carrier Airworthiness.

Similarly, AIR requires a series of initial courses for all safety critical operational staff, including the main areas of technical specialization:

- Aerospace Engineering (Airframe, Propulsion, Systems, and Software); and
- Aviation Safety Inspection-Manufacturing.

Other technical specialties in AVS, such as Drug Abatement Inspectors, Air Traffic Oversight Inspectors, and Rulemaking staff, receive structured initial technical training specific to their field of expertise.

Recurrent Technical Training

After AVS employees complete the initial technical courses, additional training needs are identified during annual calls for training requirements. Supervisors work with their employees to determine what kind of training they need and when they need it. For example, inspectors, designee specialists, and flight test pilots are required to receive recurrent training that is tailored to their particular oversight responsibilities. Training requirements are reviewed annually by the supervisors and staff. This process ensures that staff have an input for any training that they believe is needed to keep pace with changes in the aviation industry.

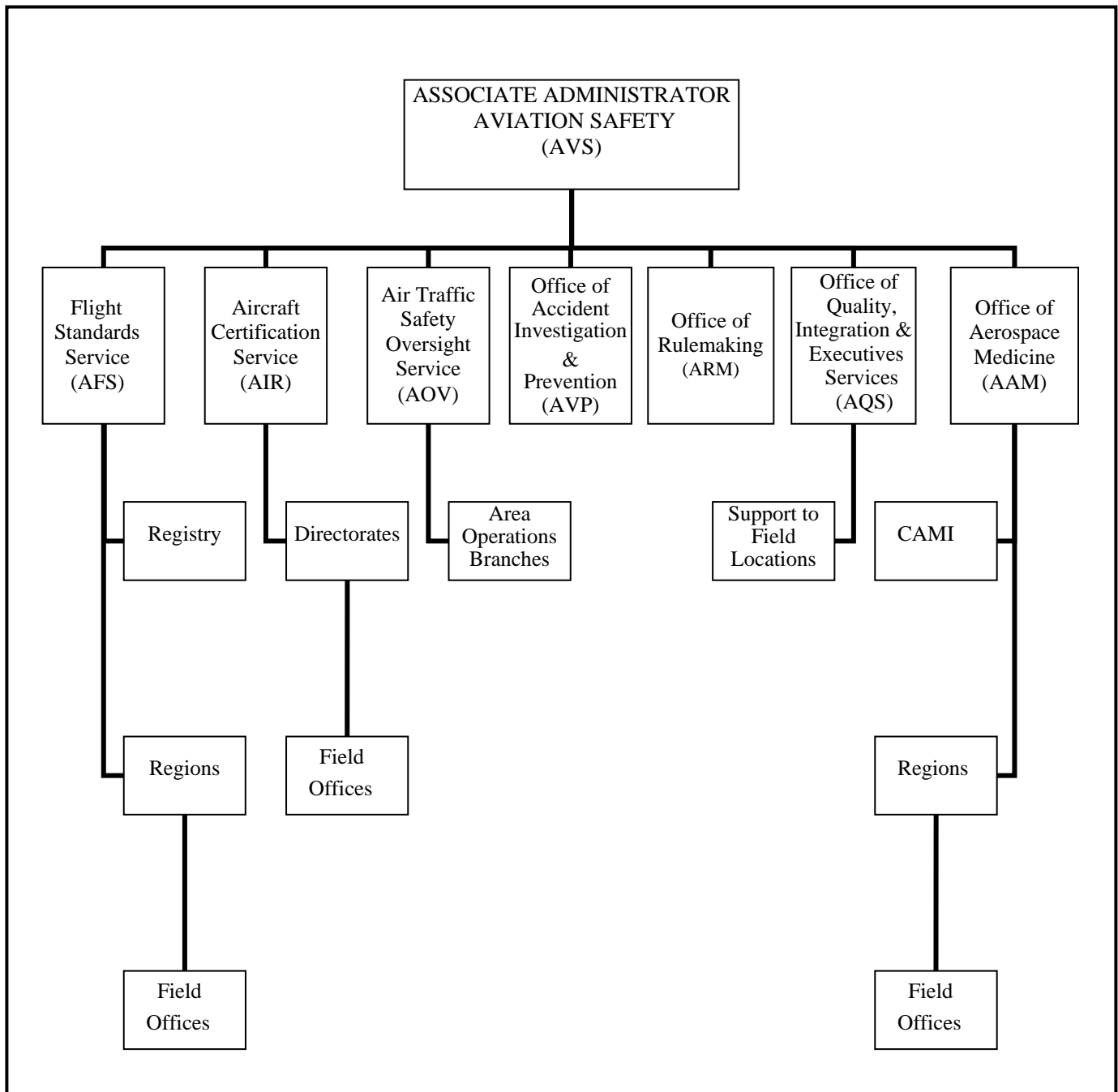
Workforce Funding Status

AVS's average and overall personnel compensation costs continue to rise primarily due to increased staffing levels, annual pay increases, negotiated labor agreements, and the increased cost of benefits, particularly healthcare. Since just over 80 percent of the AVS operations budget covers payroll and benefits, controlling these costs is critical to the long-term sustainability of operations. Although it mainly relies on attrition to manage personnel costs, AVS continues to monitor hiring and staffing compositions to ensure that pay compensation and benefit costs continue to remain under control.

Because its safety workforce is highly specialized, AVS requires adequate training, equipment, supplies, travel, and other non-payroll funding for its employees to effectively perform the organization's safety oversight and surveillance responsibilities. Rather than focusing solely on staffing levels, AVS's policy is to maintain a workforce that is adequately trained, equipped, and can travel to carry out the organization's safety mission.

Appendices

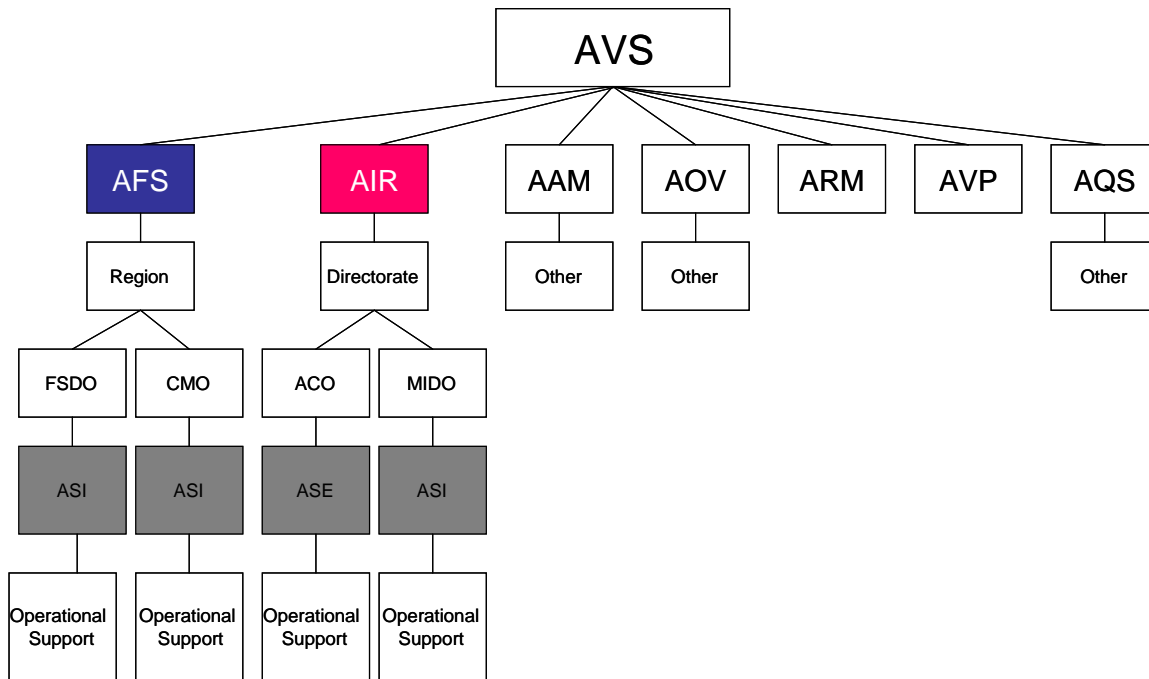
Appendix 1: FAA Aviation Safety Organization



Appendix 2: Aviation Safety Full-Time Employees and S/O Responsibilities
(Based on FY 2012 Enacted Budget)

Flight Standards Service (AFS): 5,254	Promotes: <ul style="list-style-type: none"> • Safety in air transportation by setting the standards for certification and oversight of airmen, air operators, air agencies, and designees. • Safety of flight of civil aircraft and air commerce by: <ul style="list-style-type: none"> - Accomplishing certification, inspection, surveillance, investigation and enforcement. - Setting regulations and standards. - Managing the system for registration of civil aircraft and all airmen records.
Aircraft Certification Service (AIR): 1,319	Develops and administers safety standards governing the design, production and airworthiness of civil aeronautical products: <ul style="list-style-type: none"> • Overseeing design, production and airworthiness certification programs to ensure compliance with prescribed safety standards. • Select, appoint, and oversee designees and delegation systems. • Providing safety management oversight of the continued operational safety of aircraft. • Working with aviation authorities, manufacturers and other stakeholders to maintain the safety of the worldwide air transportation system.
Office of Aerospace Medicine (AAM): 369	Manages medical programs and services: <ul style="list-style-type: none"> • Medical certification of airmen. • Inspection and oversight of aviation industry drug and alcohol testing programs. • Medical clearance of air traffic control specialists. • Drug and alcohol testing of FAA employees with safety sensitive jobs and jobs requiring security clearances. • Aerospace medicine and human factors research. • Employee occupational health and health awareness programs. • Oversight of Aviation Medical Examiners
Office of Quality, Integration & Executive Services (AQS): 277	Supports AVS's safety mission: <ul style="list-style-type: none"> • Approving, overseeing and facilitating integration initiatives among the AVS S/Os. • Overseeing the AVS quality management system. • Providing budget, planning and human resources support. • Providing IT support, including managing the AVS National Help Desk, giving real-time support to AVS employees, on-site contractors and other users.
Air Traffic Safety Oversight Service (AOV): 133	Oversees the Air Traffic Organization: <ul style="list-style-type: none"> • Providing safety oversight of the ATO. • Approving the ATO SMS and monitoring the ATO for compliance with the approved SMS. • Reviewing and approving the ATO's safety implementation actions and risk management strategies. • Ensuring consistency in application of requirements: <ul style="list-style-type: none"> - Credentialing program for ATO operation personnel. - Safety audits of ATO operations and system processes.
Office of Accident Investigation & Prevention (AVP): 67	Investigates aviation accidents and incidents to detect unsafe conditions and trends and to coordinate the corrective action process: <ul style="list-style-type: none"> • Investigating major or significant accidents and incidents to identify safety deficiencies and unsafe conditions, and recommend policy. • Coordinating with responsible FAA office for evaluation and corrective action. • Analyzing accident and incident data and other safety data to identify safety issues and trends. • Addressing National Transportation Safety Board and internal FAA Safety Recommendations. • Leads SMS implementation efforts for the FAA and AVS.
Office of Rulemaking (ARM): 36	Manages the FAA's rulemaking program, processes and timelines: <ul style="list-style-type: none"> • Developing proposed and final rules, and managing responses to petitions for rulemaking. • Managing responses to petitions for exemption from regulatory requirements. • Overseeing rulemaking advisory committees that provide advice and recommendations on a myriad of aviation-related issues.

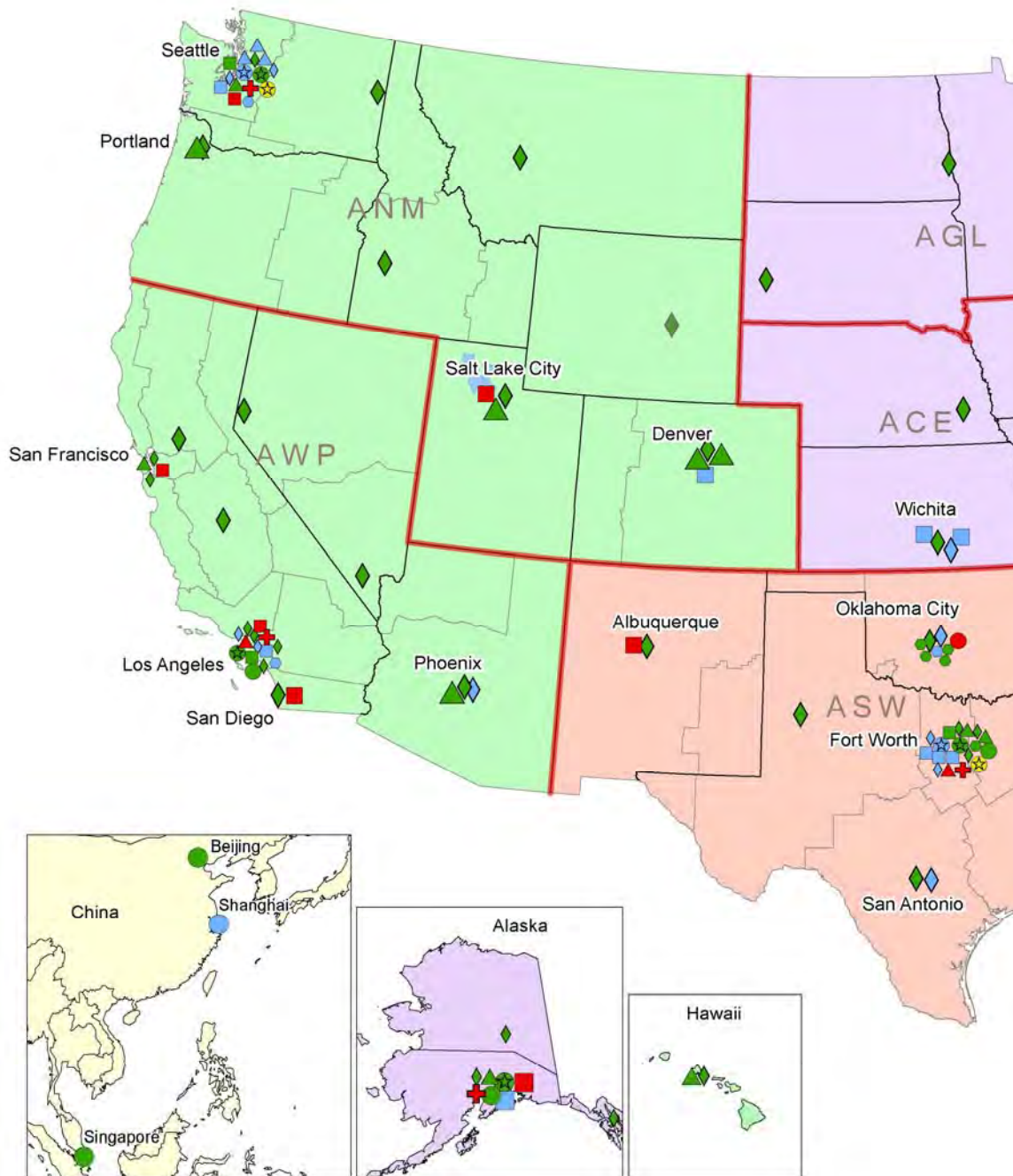
Appendix 3: Staffing Organizational Chart



The AVS organization is staffed with over 7,450 employees, of which, approximately 4,400 are Aviation Safety Inspectors (ASIs) and 750 are Aviation Safety Engineers (ASEs) located within AFS or AIR.

Appendix 4: AVS S/O Field Functions

Service/Office	Number	Function
Flight Standards Service (AFS)	8	Regional Flight Standards Division Offices
	81	FSDO - Flight Standards District Offices
	1	FSFO - Flight Standards Field Office
	20	CMO - Certificate Management Offices
	1	CMFO - Certificate Management Field Office
	2	CMU - Certificate Management Units
	5	AEG - Aircraft Evaluation Group Offices
	5	IFO - International Field Offices
	4	IFU - International Field Units
Aircraft Certification Service (AIR)	4	Directorates
	14	ACO - Aircraft Certification Offices
	4	MIO - Manufacturing Inspection Offices
	20	MIDO - Manufacturing Inspection District Offices
	3	MISO - Manufacturing Inspection Satellite Offices
	1	CMO - Certificate Management Offices
	2	CMU - Certificate Management Unit
	2	IFO – International Field Office
	2	SOO – Safety Oversight Office
Office of Aerospace Medicine (AAM)	9	Regional Aerospace Medicine Divisions
	9	MFO – Medical Field Offices
	3	C&E – Compliance and Enforcement Centers
	1	CAMI – Civil Aerospace Medical Institute
	2	Industry Drug and Alcohol Program (located in Regions)
Office of Quality, Integration & Executive Services (AQS)	9	FAA Regional Offices
	85	Field Locations
Air Traffic Safety Oversight Service (AOV)	3	Area Operations Branches

Appendix 5: AVS US and International Locations



Appendix 6: Aviation Safety Primary Stakeholders

(Data updated between December 2011 and January 2012)

Air Operator Certificates: 5,458

89	Major U.S. Air Carriers
2,174	Commuter Air Carriers/On Demand Air Taxi
99	Commercial Operators
496	Foreign Air Carriers ¹
324	External Load (e.g. Logging, Oil Platform)
1,884	Agricultural Operators
392	Public Use Authorities (e.g. State/City/Police)

Air Agency Certificates: 5,912

663	Pilot Training Schools
4,825	Repair Stations
166	Maintenance Training Schools
258	Pilot Training Centers

Aircraft: 210,463

7,279	Air Carrier Aircraft
471	Commuter Air Carrier Aircraft
10,420	On Demand Air Taxi Aircraft
181,782	General Aviation
10,511	Inactive Aircraft

Aviation Authorities-other countries: 414

36	Authorities/Entities with Bilateral Agreements
190	Foreign Civil Aviation Authorities
188	Accident Investigation Authorities

Check Airmen: 7,747²

4,453	Part 121
167	Part 121/135
3,127	Part 135

Designees: 10,629³

3,447	Aircraft Certification
3,689	Flight Standards
3,493	Aerospace Medicine

Flight Instructors: 97,398

Mechanics with Inspection Authority: 21,740

Approved Manufacturers: 1,619

Active Pilots: 747,959

145,994	Airline Transport Pilot
136,790	Commercial
213,044	Private
225	Recreational
4,044	Sport
119,239	Student
128,623	Foreign Pilot

Non-Pilot Air Personnel: 737,192

378,561	Mechanics/Repairmen
39,517	Control Tower Operators
166,636	Flight Attendants
74,664	Ground Instructors
77,814	Other (e.g. dispatchers, flight navigators, parachute riggers, flight engineers)

ATCS Medical Clearance Exams: 14,747

13,745	Air Traffic Controller Workforce
107	Flight Service Station Workforce

ATO Designee Examiners/ATO Credential Personnel: 22,709

360	ATCS Proficiency Managers
78	ATSS Proficiency Managers
1,845	ATCS Designated Examiners
460	ATSS Designated Examiners
14,944	ATCS Credential Holders
4,771	ATSS Credential Holders
605	CTO Examiners

Airmen Medical Examinations: 379,358

29,396	Special Issuances
349,962	Standard Issuances

Aviation Industry Entities Covered by Anti Drug & Alcohol Programs: 7,200

Aviation Industry Trade Organizations

National Transportation Safety Board

96	Safety Recommendations (5-year average)
32	Major Investigations (avg/yr) (new)

¹ The FAA does not issue Certificates to Foreign Air Carriers. They are only issued Operations Specifications

² Part 121 14 CFR Part 121 Operating Requirements: Domestic, Flag, and Supplemental Operations

Part 135 14 CFR Part 135 Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons On Board Such Aircraft

³ Designee numbers were recently revalidated by the Designee project manager.

Appendix 7: AVS Training Priorities

In the 2010 AVS Workforce Plan, AVS identified four focus areas which continue to be the organization's training priorities:

- Standardize training-related activities across AVS, specifically the call for training and quota-management processes. STATUS: An AVS team completed their review of system options and recommended an FAA quota-management system – Comprehensive Management Resource Information System (CMRIS). The implementation of this system will automate the annual call for training, identifying AVS requirements for technical training more easily and providing visibility of all training requests within the organization. This new system will provide an automated call for training capability across AVS in standard and more resource effective process. However, resources are not currently available to implement an AVS-wide solution;
- Implement a vetting process for training content across the S/Os to minimize the development of redundant content. STATUS: In FY 2011, the AVS Training Council enhanced the Planning, Programming, and Budgeting Process for training with the development of a Training Program Communication Procedure that provides a structure to the oversight of AVS-wide training initiatives;
- Research and develop innovative “blended” learning technologies that will allow AVS to improve the quality, effectiveness, and reach of training and performance support offered to AVS employees. STATUS: In collaboration with the FAA Office of Learning and Development, the FAA upgraded to a newer version of Black Board and continues to expand its usage. The Agency also received licenses for Adobe Connect, which are being used to deliver a new training for AVS new hires; and
- Conduct an analysis of the designee training operations in AVS similar to the analysis done for the overall AVS training program in FY 2008. STATUS: The AVS Delegation Steering Group continues to review designee training as part of the deployment to the Designee Management System.